

Serial No. 10/606,834

NIT-379

REMARKS

The Applicants request reconsideration of the rejection.

The title has been amended as required by the Examiner.

Claims 1, 4, 10, 12 and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Itaya et al. (article from Electronics Letters) in view of Alavi et al. US 4,599,728. The Applicants traverse as follows.

Claim 1, as filed, is directed to an optical semiconductor device including these an InAlAs electron stopping layer, an InGaAsP layer including a grating stacked on the electron stopping layer, and an InP cladding layer stacked on the InGaAsP layer, wherein a concave depth of the grating is smaller than a thickness of the InGaAsP layer. Independent Claim 2 has similar limitations, with a spacer layer and an etch stopping layer between the InGaAsP and cladding layers.

Itaya shows an active layer on which a guide layer is formed, followed by formation of a grating in the guide layer. Noting that Itaya does not teach the InAlAs electron stopping layer as claimed, the Examiner applies the secondary reference to Alavi.

Serial No. 10/606,834

NIT-379

However, Alavi's second confining layer 40 asserted by the Examiner has the dual role of carrier and optical confinement, such that the second confining layer 40 is thicker than the electron stopping layer of the present invention. Thus, one sees that the second confining layer 40 has a different function than the claimed electron stopping layer.

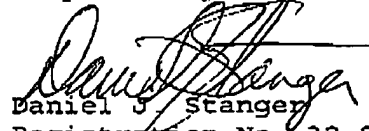
If one were to substitute the second confining layer 40 of Alavi into the structure of Itaya, Itaya's grating could not fully operate as a feedback means because the laser oscillation light would be confined within the cladding layers (that is, the n-InP cladding layer of Itaya and the second confining layer 40 of Alavi). Then, the combination would have the grating formed on the cladding, rather than between the cladding and the active layer as claimed. Therefore, a combination as asserted in the rejection would be inoperable, and would not meet the limitations of the claims.

Serial No. 10/606,834

NIT-379

The remaining rejections are based on the combination of Itaya and Alavi, and fail for the same reasons. Accordingly, the Applicants request reconsideration of the above-identified application.

Respectfully submitted,



Daniel J. Stanger
Registration No. 32,846
Attorney for Applicants

MATTINGLY, STANGER & MALUR
1800 Diagonal Rd., Suite 370
Alexandria, Virginia 22314
(703) 684-1120
Date: August 19, 2004